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RECORDS OF RARE LEPIDOPTERA FROM ITHACA, NEW YORK.

BY WM. T. M. FORBES,

Ithaca, N. Y.

In the following list are included the rarer Lepidoptera taken in the trap lantern at the same time as those whose seasonal records have already been reported in the Canadian Entomologist, vol. 55 pages 151 and 175. Although small numbers of a good many other species were also taken, the two papers together will include most of the species for which really significant seasonal or distributional records were obtained. Complete files are deposited in the records of the Department of Entomology of Cornell University, as experiment 1030, and duplicates are in the writer's hands, and with the Insect Pest Survey at Washington. The numbers correspond to Barnes and McDunnough's Check List, as in the previous report.

695 *Sphinx luscitiosa* Clem. June 5, 1919.

711 *Pachysphinx modesta* Harr. June 5, July 10, 1919. This species appears regularly at Ithaca, more commonly than anywhere else I have collected.

747 *Deidamia inscriptum* Harr. May 14, 1919, May 27, 1922.

813 *Basilona imperialis* Dru. July 9, 15, 1919.

905 *Ammalo tenera* Hbn. June 14-20, 1919.

963 *Estigmene congrua* Wlk. May 29-June 13, 1922, June 10, 1919.

973 *Apantesis parthenice* Kby. Aug. 26, 1922.

977 *A. arge*, ab. *nervosa* N. & D. June 1, 1919.

979. 1 *A. persephone* Grt. June 27, 1922. I am convinced this is distinct from *A. anna*, but the male of *anna* is normally mistaken for *persephone*.

1098 *Rhodophora florida* Gn. June 9, 1919, July 11, 1922. The larva is abundant at Ithaca, but the moth does not normally come to light.

1130 *Lygranthoecia marginata* Haw. Aug. 3, 1922.

1353 *Euxoa divergens* Wlk. Aug. 15, 18, 1922.

1395 *Feltia gladiaria* Morr. Sept. 10-18, 1922.

1415 *Agrotis badinodis* Grt. Sept. 14-18, 1922.

1416 *A. geniculata* G. & R. Aug. 14, 1922.

1443 *A. jucunda* Wlk. July 5, 1922.

1553 *Matuta tenebrifera* Wlk. Apr. 17, 1922.

1560 *M. prasina* F. Aug. 14, 1922.

1659 *Polia* (*Mamestra*) *detracta* Wlk. June 19-July 15, 1922.

1670 *P. distincta* Hbn. May 16, 1919, Apr. 29, May 20, 1922.

1673 *P. meditata* Grt. Aug. 17, 1922, Aug. 24-29, 1919.

1686 *P. subjuncta* G. & R. June 14, Aug. 23, 1922.

1700 *P. adjuncta* Bdv. May 15-June 10; Aug. 3-21.

1858 *Eriopyga furfurata* Grt. July 7, 1922.

1910 *Orthosia* (*Graphiphora, Monima*) *rubrescens* Wlk. May 6, 1919. Was abundant in the spring of 1915, but has been rare ever since.

1930 *Ceramica picta* Harr. June 12, Aug. 7, Sept. 3, 1922. Is abundant as a larva at times, but I rarely take the moth.

1997 *Cucullia intermedia* Speyer, May 20, June 7, 1919, May 20, 1922.

2096 *Feralia jocosa* Gn. April 11, 27, 1922. This is not so rare on hemlock trunks, though very hard to see; it seldom seems to come to light.

2105 *Psaphida grotei* Wlk. April 15, 1922.

2110 *Eutolype rolandi* Grt. April 17, 1922.

2137 *Graptolitha* (*Xylina*) *ferrealis* Grt. May 3, 1922, May 22, 1919.

2213.1 *Conistra* (*Scopelosoma*) *walkeri* Grt. Apr. 15, May 6, 1922. This is at least a distinct form from *sidus*, which I have never seen from Ithaca. I suspect the true *sidus* may be limited to the Atlantic coast.

2224 *Parastichtis* (*Orthosia*) *ralla* G. & R. Aug. 27-Sept. 17, 1922.

2246 *Septis* (*Hadena*) *verbascoides* Gn. June 21, 1919.

2251 *S. vulgaris* G. & R. June 12, 1922.

2260 *S. vultuosa* Grt. June 11, 1919.

2269 *S. alia* Gn. (*suffusca*). June 23, 29, 1922.

2286 *Trachea* (*Hadena*) *mactata* Gn. Sept. 7, 1922.

2308 *T. modica* Gn. Aug. 4, 8, 1922.

2315 *T. impulsa* Gn. June 29, 1922.

2335 *Oligia fractilinea* Grt. Aug. 3, 1919. The specimen is of the plain form, *vulgivaga* Morr. Larvae have occasionally been injurious to young corn, but the species is usually rare. I am convinced *misera* Grt. is also a form of this species.

2356 *Agroperina lutosa* Andr. July 3, 1922.

2384 *Phlogophora* (*Brotolomia*) *iris* Gn. June 2, 9, 1919. The larva is a cut-worm in habits, and has been bred from the egg by Mr. Wehrle.

2385 *Chutapha* (*Trigonophora*) *periculosa* Gn. July 31-Sept. 3, 1922.

2391 *Callopistria mollissima* Gn. June 16, 1922.

2392 *C. monetifera* Gn. June 18, 1922.

2400a *Chytonix palliatricula*, form *iaspis* Gn. June 1-July 16.

2423 *Agriopodes lepidula* Grt. May 31, June 9, 16, 1919; July 11, 1922.

2440 *Acronycta fragilis* Gn. June 17, 1919.

2449 *A. noctivaga* Grt. May 30, 1919.

2474 *A. interrupta* Gn. May 23, 1922.

2564 *Catabena lineolata* Wlk. May 24-31, July 24, Aug. 14.

2577 *Caradrina multifera* Wlk. Aug. 15-Sept. 1, 1922.

2581 *C. tarda* Gn. July 10, 11, 1922.

2590 *Proxenus miranda* Grt. May 31; Aug. 8-26, 1922.

2592 *Galgula partita* Gn. Oct. 22, 1922, Oct. 27, 1919.

2600 *Balsa malana* Fitch, May 22-Aug. 17.

2601 *B. tristrigella* Wlk. May 26, 1919.

2602 *B. labecula* Grt. June 2-23, 1919.

2613 *Menopsimus caducus* Dy. Aug. 15, 1922.

2642 *Achatodes zeae* Harr. July 19-Aug. 17, 1922.

2649 *Gortyna immanis* Gn. Aug. 18, Sept. 1, 1922.

2663 *Papaipema marginidens* Gn. (*birdi* Dy.) Aug. 27-Sept. 29, 1922.

2683 *P. purpurifascia* G. & R. Sept. 19, 1922.

2685 *P. pterisii* Bird. Aug. 31, 1922.
2686 *P. cataphracta* Grt. Sept. 23, 29, 1922, Sept. 10, 1919.
2689 *P. rigida* Grt. Aug. 30, Sept. 10, 1919, Sept. 13, 14, 1922.
2701 *P. maritima* Bird. Sept. 26, 1922.
2784 *Sphida obliqua* Wlk. June 3-12.
2827 *Eudryas grata* F. July 2-22, 1922.
2829 *E. unio* Hbn. June 20, 1919.
2891 *Chamyris cerintha* Tr. June 12-July 1.
2897 *Lithacodia concinnimacula* Gn. June 7, 1919.
2899 *L. musta* G. & R. July 2, 1919.
2901 *L. apicosa* Haw. June 12, 1919.

2989 *Tarache terminimaculata* Grt. June 17, 1919. Hampson puts this species in the wrong group of *Tarache*, as the male has a distinct bulla near the base of the fore wing.

3000 *Marathyssa inficita* Wlk. June 16-July 1.
3012 *Sarrothripus revayana* auct. (*lintnerana* Speyer) June 27, 1919.
3028 *Catocala habilis* Grt. Aug. 21, 25, 1919.
3039 *C. retecta* Grt. Aug. 23-Sept. 23.
3042 *C. vidua* A. & S. Sept. 4-16, 1922.
3083 *C. amatrix* Hbn. Sept. 9, 11, 1922.
3206 *Colocasia* (*Demas*) *propinquilinea* Grt. June 11, 1919.
3211 *Panthea furcilla* Pack. July 16, 1919, Aug. 15, 1922.
3215 *Charadra deridens* Gn. June 5, 6, 1919, June 30, 1922.
3257 *Autographa contexta* Grt. Aug. 5, 1922.
3259 *A. biloba* Steph. May 24, 1919.
3274 *A. ampla* Wlk. July 2, 1922.
3275 *Plusia aereoides* July 13, 16, 1922.
3280 *Eosphoropteryx thyatyroides* Gn. Sept. 12, 1922.
3285 *Abrostola formosa* Grt. June 18, 1922.
3286 *A. ovalis* Gn. Aug. 8, 1922.
3289 *Raphia frater* Grt. June 25, 1922.

3359 *Anticarsia gemmatilis* Hbn. Oct. 1-15, 1922 (one). A stray from the subtropical region.

3398 *Calpe canadensis* Beth. June 25, July 2, 13, Aug. 24, 1922; Sept. 7, 1919. The extremely scattered dates point to more than one brood, but I know nothing of the life-history.

3399 *Scoliopteryx libatrix* L. July 26, 1922. The characteristic larva, lashed eyes and tympanic structure would place this odd form much nearer to Hypena than it stands in our lists.

3400 *Plusiodonta compressipalpis* Gn. June 1-Aug. 6.

3406 *Alabama argillacea* Hbn. The trap took toll of the usual autumn flight of this subtropical species from Sept. 10 to Nov. 1.

3411 *Scolecocampa liburna* Geyer. July 12, 1922.
3477 *Dyspyralis nigellus* Strk. July 14, 20, 1922.
3478 *Metalestra disoalis* Grt. July 16, 1922.
3479 *M. quadrisignata* Wlk. (*contracta*). May 30-July 29, 1922.

3487 *Epizeuxis scobialis* Grt. July 12-25.

3490 *E. rotundalis* Wlk. July 5-27.

3491 *E. forbesi* French. July 22, 1922.

3513 *Hormisa litophora* Grt. July 12, 1919, July 15, 1922.

3560 *Bomolocha manalis* Wlk. Aug. 17, 1922.

3562 *B. bijugalis* Wlk. Aug. 18, 24, 1922.

2564 *B. abalinealis* Wlk. Aug. 1, 16, 1922.

3569 *B. atomaria* Sm. Aug. 14, 1922.

3571 *B. toreuta* Grt. July 13-Aug. 23, 1922.

3574 *B. citata Grt.*. (*Anepischetos*). Sept. 12, 1919.

3593 *Ichthyura* (*Melalopha*) *albosigma* Fitch. June 1, Aug. 26. 1922, June 17, 1919.

3603 *Datana perspicua* G. & R. July 14, 1922.

3608 *Hyperaeschra stragula* Grt. Aug. 14, 1922.

3609 *H. georgica* H.-S. June 7, 1922.

3613 *Notodonta basistriens* Wlk. May 29, 1922.

3615 *Pheosia rimosa* Pack. Aug. 20, 1922.

3618 *Lophodonta angulosa* A. & S. June 14, July 2, 1922; July 29, 1919.

3645 *Misogada unicolor* Pack. June 12, 1919.

3652 *Schizura semirufescens* Wlk. July 19, 1922.

3654a *S. ipomoeae telifer* Grt. July 14, 1922. Several specimens of typical *ipomoeae* and war. *cinereofrons* were also taken.

3656 *S. badia* Pack. June 14, 1919.

3657 *S. unicornis* A. & S. June 14-Aug. 17.

3660 *S. leptinoides* Grt. June 20, 1919, June 27, 1922.

3674 *Fentonia marthesia* Cr. July 16, 1922.

3680 *Gluphisia septentrionalis* Wlk. July 15, 1922; Aug. 5, 1919.

3682 *Ellida caniplaga* Wlk. May 30, June 17, 1919.

3690 *Pseudothyatira cymatophoroides* Gn. July 17, 30, 1922.

3693 *Euthyatira pudens* Gn. May 6, 1919. Thus beautiful form was taken in numbers a few years ago at a place since "cleaned up".

3743 *Tolype laricis* Sept. 1-9.

3754 *Epicnaptera americana* Harr. May 9-Aug. 29, 1919.

3775 *Racheospila rubrolinearia* Pack. May 11, 15; July 11-17, 1922.

3813 *Chlorissa pistasciaria* Gn. and *C. subcroceata* Wlk. June 29, 1922. I believe all the names in this genus (save *euchloraria*) represent forms of a single species.

3918 *Cosymbia lumenaria* Hbn. Aug. 21, 22, 1919; Aug. 24, 1922. This species must have some substitute foodplant, as its usual food in the east, sweet-fern, is not native at Ithaca, and I think the few introduced plants were exterminated by the ground department sometime before 1922.

3964 *Rachela bruceata* Hulst. Oct. 12-Nov. 14, 1919. The species is often seen flying across the campus, but usually long after the season for carrying a net is over. All the females I have seen labelled *bruceata* have been *pometaria*, and I am beginning to wonder if the female is really known at all, or if it may not turn out to be like the other Operophteras, with distinct wing-pads. It would not be unprecedented for Hulst to have based a genus on the male of one

form and a female from another subfamily.

3978 *Lygris propulsata* Wlk. June 10, 1922.

4050 *Xanthorhoe iduata* Gn. Aug. 21, 1919, Aug. 15-25, 1922.

4068 *Spargania magnoliata* Gn. May 24, 1922; June 8, 18, 1919.

4085 *Camptogramma stellata* Gn. Aug. 14-Sept. 14, 1922.

4118 *Hydrelia lucata* Gn. June 11, 1919.

4119 *H. inornata* Hulst. June 9, 17, July 24, 1919.

4120 *H. albifera* Wlk. June 8, July 28, Aug. 5, 1919; Aug. 3-18, 1922.

4290 *Orthofidonia tinctaria* Wlk. (*exornata*). June 1, 1922, May 31-June 12, 1919.

4380 *Phasiane infimata* Gn. May 31, June 5, Aug. 25, 1919.

4399 *Itame ribearia* Fitch. May 21, 1919.

4430 *Itame virginalis* Aug. 18, 1922. This is not an *Itame*, nor even closely related. I suspect it is an aberrant *Bapta* (*Corycia*), with shortly pectinate antennae.

4465. *Caripeta divisata* Wlk. With a large number of the normal form of *divisata* there were taken ten of a fine aberration, in which the white ante- and postmedial bands were filled with black, instead of white although the subterminal dots and discal spots are more conspicuously white than usual; and the antemedial was more or less obviously crossed with white bars in the discal and submedian folds. There is some variation in detail, but the two characters mentioned make the specimens strikingly different from the normal form. No such specimens have even before been taken at Ithaca, although a few specimens of normal *divisata* were caught in the same trap in 1919. The form may be known as NIGRARIA new aberration. Cornell U. Type and nine paratypes.

4467. *C. angustiorata* Wlk. July 25, 1922.

4492 *Paraphia subatomaria* Wood. June 17; July 14, 23, 1922.

4601 *Aethaloptera anticaria* Wlk. (*intextata* auct.). June 10, 1919.

4608 *Lycia ursaria* Wlk. April 18, May 4, 1919.

4615 *Nacophora quernaria* A. & S. June 20, 1919, June 12, 1922.

4620 *Phigalia olivacearia* Morr. April 11, 1922. This species was abundant in 1915, an extraordinary year for early spring species, and the female was also obtained. It has shorter wing-pads than *P. titea*, and a more conspicuously spined abdomen, like that of the male.

4641 *Anagoga pulveraria* L. June 7, 1919.

4644 *Sicya macularia* Harr. July 7, 1919; July 2, 11, 1922.

4653 *Therina endropiaria* G. & R. June 8-20, 1919.

4674 *Plagodis alcoolaria* Gn. May 31, 1922, June 5, 9, 1919.

4675 *P. phlogosaria* Gn. July 16, 1922.

—— *P. keutzingaria* Pack. May 7-20, 1919.

4707 *Euchlaena marginata* Minot. May 20-June 19.

4712 *Selenia kentaria* G. & R. May 19, 1919.

4721 *Metanema inatomaria* Gn. May 31, June 8, 1919. Aug. 12, 1922.

4726 *M. quercivoraria* Gn. (*Therina*). July 29, Aug. 6, 1922.

4759 *Apicia irraria* B. & McD. (*Euchlaena*). June 17, 1922.

4763 *Sabulodes arcasaria* Wlk., form *furciferata* Pack. June 9, 1922.

4816 *Euclea delphinii* Bdv. June 7-28.

4837 *Prolimacodes badia* Hbn. (*scapha* Harr.) July 4, 1922.

4839 *Limacodes biguttata* Pack. July 15, 1922.

4841 *L. y-inversa* Pack. July 13, Aug. 1, 1922.

4853 *Tortricidia pallida* H.-S. July 15, 1922.

4899 *Glaphyria glaphyralis* Gn. July 22, 1922. Northern specimens have a much paler ground than those from Florida.

4900 *G. sesquistrialis* Hbn. July 15, 1922.

4937 *Pilocrocis ramentalis* Led. Oct. 7, Nov. 1, 1919. A stray from the south, which has not been taken in Ithaca for many years.

5008 *Crocidophora tuberculalis* Led. June 20, July 7, 1919; July 5, 1920.

To be Continued

THE ACALYPHA FLEA-BEETLE (CREPIDODERA ATRIVENTRIS MELSH.).

BY F. H. CHITTENDEN,
Washington, D. C.

One who is familiar with the common so-called three-seeded mercury (*Acalypha virginica*), cannot fail to notice in many regions that the leaves are almost invariably punctured with numerous more or less rounded holes. This is the work of a minute clay-colored flea-bettle, *Crepidodera atriventris* Melsh., the imagos of which attack the leaves almost as soon as the plant appears above ground. Although the natural food plant of this species has been known by the writer for many years, it was not until recently, during the first week of June, that it was discovered depredating on useful plants. It was then working quite generally on cultivated Acalypha (*A. wilkesiana*), beetles being still found during the second week of June, with evidence that the plants had suffered more in May while they were young. This occurrence could not be due to scarcity of the natural food, as there was a sufficiency for the insect without resorting to the ornamental plant. The writer has noticed the beetle abundantly about Washington from the first week in May till the last of June and wherever the wild plant occurs. They are usually found paired, from one to three couples occurring on a plant. From their uniform occurrence on this plant, it was fair to conclude that this was also the food plant of the larva, which would naturally feed on the roots. This has proved to be the case. During the last week of June the larva was found nearly full grown at the roots.

The larva is almost an exact counterpart of that of *Epitrix*, extremely delicate and of a clear white color.

This flea-bettle is recorded by Messrs. Forbes and Hart[1] as occurring on sugar beet in early October, presumably in the vicinity of Urbana, Ill. It is also recorded by Webster on buckwheat September 7, but it is not positively stated to feed on sugar beet. It is common in Illinois, where it hibernates as adult, occurring in the collection of the State Laboratory of Natural History in December and March, although noted as having been taken mainly late in April, in May, and in July.

1.—Bull. 60, Univ. Ills. Agl. Exp. Sta., 1900, p. 465.

THE SPECIES OF SCIERUS LEC. (COLEOPTERA).*

BY J. M. SWAINE,
Ottawa, Ont.

Representatives of this genus have until recently been exceedingly rare in collections. The only described species, *annectens* Lec., was recorded originally from Anticosti Island and British Columbia. It has been found in considerable numbers by the writer in dying bark of spruce killed by *Dendroctonus* or by fire in eastern Quebec, and is distributed generally throughout the spruce forests of the northern part of the continent. There are now in the Canadian National Collection 85 adult specimens of this genus, originating as follows : 60, St. John River, Gaspe, Que., *Picea canadensis,* (J. M. Swaine) ; 9, Creighton Valley, B. C., *Picae engelmanni,* (Ralph Hopping) ; 1 Cariboo District, B. C. ; 1, San Francisco Peak, Arizona, *Picea engelmanni,* Ralph Hopping; 1, Big Bear Lake, Cal., W. Knaus; 1, Mammoth Mt., Utah, W. Knaus; 4, Jasper Park, Alta., spruce, J. M. Swaine; and eggs, larvae, pupae and work from white spruce.

Although minor variations occur this material is probably all *annectens* Lec., with the exception of four adults from Jasper Park which appear to be distinct and are described hereunder the name *pubescens.*

Scierus annectens Lec.

Length, 3.2 mm.—4.5 mm. ; colour brick red to piceous, opaque above, shining below ; the peculiar opaque or subopaque lustre of the dorsum is characteristic of the genus in our fauna.

The *front* convex above, punctures coarse, close and shallow, pubescence minute, with a very wide and deep transverse impression between the eyes; the front inflated dorsally below the impression, the sides parallel, antennal scrobes entirely lateral, with a fine, indistinct, median, longitudinal carina in the males, (lacking this in the females) ; coarsely granulate-punctate, with longer hairs; the sides of the epistomal margin elevated and arcuate, the median marginal lobe well developed, wider than long.

The *pronotum* is wider than long, sides strongly rounded on basal three-fifths, narrowed and feebly constricted in front, the punctures coarse, shallow and very densely placed, moderately regular in size, surface opaque and feebly granulate, smooth median line narrow and feebly carinate from base to apical constriction; proepisternal area shining, coarsely, deeply, roughly punctured; metasternum shining, coarsely punctured meso- and metepisterna densely clothed with small pale scales.

The *elytra* are strongly punctate-striate, the strial punctures regular, black, small, round and very closely placed ; the interspaces on the disc wider than the striae, plano-convex, finely, confusedly, granulate-punctate, becoming uniseriately granulate on the narrower declivital interspaces; 2nd interspace narrowed and gradually obsolete before the apex ; 3rd and 9th interspaces subcarinate and fused before the apex ; lateral interspaces narrower ; pubescence yellow, very fine and indistinct.

Scierus pubescens new species.

Length 4.3 mm., of the size and general appearance of *annectens* Lec., except that the dorsum is subopaque, distinctly somewhat glistening. The *front*

*—Contribution from the Division of Forest Insects, Entomological Branch, Dept. of Agric., Ottawa.

much as in *annectens*; the *pronotum* narrower than in *annectens*, feebly arcuate on the sides behind, not inflated, arcuately narrowed in front, not constricted, very coarsely punctured, not so densely on the disc as *annectens*, densely subgranulate-punctate on the sides, the smooth median line rather wide and convex.

The *elytra* have the striae wider and the interspaces narrower than in *annectens*, interspaces becoming narrower than the striae on the apical half; very narrow and uniseriately granulate on the declivity, the strial punctures coarse and subquadrate; the pubescence on the interspaces yellow, much longer than in *annectens*, so that the interspaces are evidently pubescent.

This species differs from *annectens* Lec. in the moderately shining and evidently pubescent dorsum, smaller pronotum with the disc coarsely and less closely punctured, the elytral punctures very coarse and the interspaces narrower than the striae, except at the base, and the interspaces evidently pubescent.

Holotype—♀, Jasper Park, Alta, August, 1915, Spruce, 2232a, (J. M. Swaine), No. 728 in the Canadian National Collection.

Allotype—♂, Jasper Park, Alta., August, 1915, J. M. Swaine, spruce.

Paratype—♀, collected with ♂ allotype.

A NEW CANADIAN SYRPHID (DIPTERA)*

BY C. HOWARD CURRAN,

Ottawa, Ont.

Syrphus bigelowi n. sp.

Closely related to *ribesii* and *vitripennis*. This is the species the females of which are traced out in my key to the *ribesii* group (Can. Ent., LIII, 152) to *protritus* O. S. *S. nitidicollis* Mg., (*protritus* O. S.) was properly placed in the key so a name is needed for *protritus* of my key.

Differs from *ribesii* L. in having the femora wholly pale in female, usually the hind femora very broadly reddish apically in the male, and with scarcely any tiny black spinules; the antennae are reddish with the third joint brownish above, the front is wider and not so much depressed at lower third and the abdomen lacks ventral dark fasciae.

Differs from *vitripennis* Mg. in the femora and tibiae of the female being wholly reddish and in the reddish antennae.

Holotype—♀, Aweme, Man., June 23, 1923, (N. Criddle); No. 1278 in the Canadian National Collection, Ottawa.

Allotype—♂, Aweme, Man., May 16, 1921 (H. A. Robertson).

Paratypes—2 ♂, 2 ♀, Savonoski, Alaska, July 1919; ♂, Savonoski, June and Aug. 13, 1919 (Hine); ♂, ♀, Orillia, Ont., May 5, 3 ♀, May 29, 30, ♂ Sept. 19, 1921 (Curran); 3 ♀, Megantic, Que., June 17, 19, 20, 1923 (Curran); 3 ♀, Hull, Que., May 20, 24, 27, 1923 (Curran); 3 ♀, Fort Wrigley, N. W. T., July 25, 31, Aug. 6, 1922, (C. H. Crickmay); 2 ♂, 3 ♀, Teulon, Man., May to Sept. (A. J. Hunter); 60 ♂, ♀, Macdiarmid, Ont., June to August (N. K. Bigelow).

Mr. Bigelow obtained a series of several hundred specimens in the Lake Nipigon Region, Northern Ontario, which enabled me to definitely separate the species from its allies.

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*—Contribution from the Division of Systematic Entomology, Entomological Branch, Dept. Dept. of Agric., Ottawa.

THE CULICIDAE OF THE DOUGLAS LAKE REGION (MICHIGAN).

BY ROBERT MATHESON,
Cornell University, Ithaca, N. Y.

Douglas Lake, the home of the University of Michigan Biological station, is situated near the Northern end of the peninsula. It is a small lake situated in a sandy country from which nearly all the original forest cover has been cut off. There are a few small streams emptying into the lake and one discharging from it. Around the lake are small bogs, swamps, smaller lakes, and ponds. The whole of the Northern part of the peninsula is dotted with larger or smaller lakes but the writer restricted his collecting and rearing to the immediate vicinity of the station and nearby bogs and swamps. The collecting and rearings were done from July 1 to Aug. 15, 1922. I was too late to secure the larvae of any of the early spring species.

Wyeomyia smithii Coq. This proved to be a very abundant species in the bogs surrounding Mud Lake, a small shallow sheet of water some six miles from the station. Around the lake the pitcher plant (Saracenia purpurea) was very abundant and each plant, when in right condition, contained numerous eggs, larvae and pupae. The adults were numerous, settling readily on ones clothes but none were observed biting.

Culex territans Walker. (*restuans* Theo.). This species was not commonly met with throughout the area. In some places near old saw-mills the larvae were not uncommon in pools and puddles, containing leaves and various wastes. In a small puddle formed by a submerged box in the sandy shore of the lake the larvae of this species were the only ones present. The bottom of the puddle was densely covered with leaves.

Culex pipiens Linn. Though a diligent search was made for this species it was not found in the region.

Culex testaceus Van der Wulp. (*C. territans* Auct). This was one of the most abundant mosquitoes throughout the region. The larvae were found throughout the summer in marshes, grassy pools, along slow flowing streams and in the bogs.

Theobaldia dyari Coq. A single female of this species was taken on July 8, 1922.

Theobaldia inornatus Williston. This species was found in abundance breeding in the dark shaded pools in a cedar bog along the shores of Mud Lake. The larvae were abundant and the adults were active biters. Adults, larvae and pupae were taken from July 15 to Aug. 5, 1922.

Taeniorhynchus perturbans Walker. Two specimens were obtained on July 24, 1922.

Aedes aurifer Coq. The species was taken in abundance along the wooded, overflowed areas about Maple River on the Western side of the lake. It proved to be a vicious biter.

Aedes intrudens Dyar. A rather uncommon species throughout the region. About 12 specimens were obtained and these taken in association with *A. aurifer* Coq.

Aedes punctor Kirby. Two specimens of this species were obtained on July 1, 1922.

Aedes canadensis Theo. This species was not common. Seven speci-

mens were captured during the months of July and August.

Aedes stimulans Walker. This was an abundant species throughout the summer and with its two near relatives *A. fitchii* F. & Y. and *A. excrucians* Walker, proved very annoying about the station and terrible pests in the woods. These species seemed to be present in about equal numbers judging from the number of each taken. They were so abundant and such vicious biters that it was almost impossible to remain any length of time in certain marshy wooded areas.

Aedes fitchii F. & Y. This species was very common in the wooded bogs and swamps. It was also present about the station.

Aedes excrucians Walker. Found in similar locations to the preceding and proved very annoying.

Aedes cinereoborealis F & Y. Two specimens of this species were taken.

Aedes vexans Meig. (*A. sylvestris* Theo.) This was not a common species about the station. It was taken in considerable numbers at Mud Lake, a small shallow lake some six miles distant. Both males and females were captured in numbers, (July 15 to Aug 8).

Anopheles punctipennis Say. This anopheline was rare about the region. In all my collections only two were captured and three reared from larvae.

Anopheles maculipennis Meig. This was the dominant anopheline in the region. Practically all anophelines captured in buildings, by sweeping and rearing were this species. Among tall grasses and sedges along the overflowed banks of Bessy Creek, a small stream entering the lake, this species bred in abundance. Of thirty-five (35) individual rearings of larvae from this source only three proved to be *A. punctipennis*. No attempt was made to pin all specimens captured but each was identified and all *A. punctipennis* were preserved. A careful search was made for the writer was in hopes of securing *A. quadrimaculatus* Say. For this reason a great many individuals rearings were made but not a single *A. quadrimaculatus* Say was obtained.

ADDITIONAL NEW SPECIES OF ERYTHRONEURA (HOMOPTERA, CICADELLIDAE).

BY W. ROBINSON,

Department of Entomology, University of Kansas.

Several new and beautiful species of *Erythroneura* have been collected by Prof. R. H. Beamer and the writer in Kansas since the autumn of 1923. Some were obtained during the winter under layers of fallen leaves and others collected this spring in general sweeping. In this paper are described the last of the new species thus obtained.

The genus now contains sixty-six species which includes four new species described by Van Duzee.*

Erythroneura scripta new species.

General ground color of dorsum milky-white except vertex which is ivory-white, and marked with red as follows: vertex, a large "O" shaped median mark to which are joined two smaller lateral ones. Pronotum, a "T" shaped vitta with two short lateral spots behind the eyes. Scutellum, a spot in each

*—E. P. Van Duzee, Proc. Cal. Acad. Sci. 4th Series Vol. XIII. No. 13, pp. 231-236.

angle. Tegmina, on clavus a small spot near base, a triangular area at middle with a black spot in the inner angle; on corium, two spots at base which are sometimes fused, an interrupted line around the costal plaque, a spot between the latter and the claval suture, an oblique line running from the black streak at apex of costal plaque to the base of cell M_4. Radius and media in region of cross-veins red. Apical cells smoky except a clear outline along the base. A black spot in apex of cell R_3 and base of cell M_4.

Holotype— ♀, Cherokee Co., Kansas, December 30, 1923, (R. H. Beamer).

Paratypes— ♀'s, Cherokee Co., Kansas, December 30, 1923, (R. H. Beamer); and Douglas Co., Kansas, April 14, 1924, (W. Robinson).

Types deposited in the Museum of the University of Kansas.

Erythroneura aza new species.

Ground color of vertex, pronotum and scutellum ivory, of tegmina white, with the following marks in orange: vertex, a narrow median inverted "U" shaped vitta; pronotum, a broad median "Y" shaped vitta and a broad lateral vitta behind each eye; scutellum, a broad spot in each basal angle and a small spot at tip. Tegmina lightly washed with orange throughout except at inner basal angle of clavus and in base of corium where the orange is deepened to nearly red. Cross-veins and adjacent parts of longitudinal veins crimson. A black streak caudad of costal plaque; apical cells whitish at base, remainder dusky especially near the base. A black spot in apex of cell R_3 and base of cell M_4.

Holotype— ♂, Lawrence, Kansas, December 15, 1923, (W. Robinson).

Allotype— ♀, Lawrence, Kansas, December 15, 1923, (W. Robinson).

Types deposited in the Museum of the University of Kansas.

Erythroneura rubraza new species.

Vertex ivory on anterior margin, remainder red and enclosing three ivory spots. Pronotum, ivory on anterior margin, remainder white; a red discal area with two anterior projections of yellow, and a small lateral spot of red behind each eye. Scutellum yellow with a red spot in each angle. Tegmina whitish-hyaline and marked as follows: a red spot at base of clavus, another at tip and a narrow band of same color across middle; a red spot at base of corium, and a red line beginning in front of costal plaque proceeding obliquely inward where by a short extension it touches middle of claval suture; the line then becomes faint orange and proceeds backward between media and cubitus the length of the costal plaque where it increases greatly in width and covers remainder of tegmina to cross-veins with a faint wash of orange which is especially noticeable on the longitudinal veins. The costal margin and radius are bright red. A small black spot posterior to costal plaque and a large one in base of cell M_4.

Holotype— ♂, Cherokee Co., Kansas, December 30, 1923, (R. H. Beamer).

Type deposited in the Museum of the University of Kansas.

Erythroneura tudella new species.

Vertex brownish, eyes black; pronotum fulvous on anterior margin, remainder greenish-yellow; scutellum yellow. Tegmina, ground color of basal third greenish-yellow, of remainder white and marked as follows: in middle of clavus a brownish-red somewhat triangular area with a black spot in the angle touching the tegminal suture; a brownish-red line arising before the costal plaque and bordering its inner margin, then broadening, becoming orange in color and pro-

ceeding to the base of cell M_4. Costal plaque opaque-white with an oblique black streak at its apex; apical cells smoky; a black spot in apex of cell R_3 and base of cell M_4.

Holotype— ♀, Cherokee Co., Kansas, December 30, 1923, (R. H. Beamer).

Type deposited in the Museum of the University of Kansas.

Erythroneura fraxa new species.

Ground color creamy-white with the following pattern in red: vertex, a very broad median vitta which may consist of two narrow vittae fused together. Pronotum, a narrower median vitta bifurcate at anterior end, a broader lateral vitta behind each eye. Scutellum, a large triangular area in each basal angle and a small dot at tip. Tegmina, an unusually broad area at the humerus, probably made up of two vittae fused together; from this a line extends inwardly to the tegminal suture midway along the clavus. Another line arises before the costal plaque as a very fine streak, soon widens greatly and proceeds along the inner margin of the plaque and then inwardly to the base of cell M_4. These two lines, the claval and corial, are connected in the region of the costal plaque by a short band and make one continuous vitta from the humerus to the crimson cross-veins. Apical cells dusky; a black spot in the apex of cell R_3 and base of cell M_4.

Holotype— ♀, Douglas Co., Kansas, December 1923, (W. Robinson).

Type deposited in the Museum of the University of Kansas.

Erythroneura kanwakae new species.

Vertex ivory with two very narrow median vittae of red which lie closely together and frequently are fused for the greater part of their length. Pronotum ivory in the anterior half, the remainder yellow tinged with grey; a "Y" shaped vitta on disk and two lateral lines, red. Scutellum yellowish-white with a red spot in each angle. Tegmina white and marked with red as follows: on clavus a vitta in touch with basal two-thirds of claval suture and a spot at tip. On corium a spot at base, a fine line arising in front of costal plaque, soon broadening and proceeding around inner margin, giving off a short broad extension to the claval suture and touching claval vitta, then directed inward to the base of cell M_4. The corial vittae are sometimes pale red to dusky within and brightly margined in red; whitish ground color of tegmina frequently diffused with red; a smoky band extends obliquely over apical cells from base of M_4 to apex of R_3. This is a slender species with a long narrow vertex.

Holotype— ♂, Douglas Co., Kansas, April 1924, (W. Robinson).

Allotype— ♀, Douglas Co., Kansas, April 1924, (W. Robinson).

Paratypes— ♂'s and ♀'s, Douglas Co., Kansas, April 1924, (W. Robinson); Jefferson Co., Nebraska, April 20, 1924, (R. H. Beamer and H. B. Hungerford); Riley Co., Kansas, April 22, 1924, (R. H. Beamer).

Types deposited in the Museum of the University of Kansas.

NOTES ON NORTH AMERICAN BREMIDAE (HYM).

BY THEODORE H. FRISON,
Urbana, Illinois.

The continued examination of collections of *Bremus* and *Psithyrus* from North America has resulted in the accumulation of considerable new data regard-

ing the distribution of certain species of these two genera. The general distribution of these bees was first tabulated by Franklin (1923), and since then additions to this list have been contributed by Franklin (1915), Lutz (1916), Sladen (1916, 1919), and Frison (1919, 1921, 1923). Because of this literature our knowledge of the distribution of the North American bumblebees has reached a position where good data are available to the student of animal distribution. In fact, one paper dealing with the geographic distribution of these bees has already been published (Lutz: Bull. Amer. Mus. Nat. Hist., 1916). Additional records extending the known ranges of the various species of bumblebees, therefore, warrant publication.

For the loan of specimens upon which the following new records are based I am indebted to Dr. J. McDunnough of the Entomological Branch, Dept. of Agri., Ottawa, Dr. F. E. Lutz of the American Museum of Natural History, Mr. E. T. Cresson Jr. of the American Entomological Society, and Mr. F. M. Gaige of the Museum of Zoology, Ann Arbor, Michigan.

1. *Bremus affinis* (Cress.). Washington Co., Mich., one queen, May 2, 1922, (Coll. F. M. Gaige); Benzie Co., Mich., two workers, August 26, 1919, (Coll. E. P. Butler). Specimens from Museum of Zoology, Ann Arbor, Michigan.

2. *Bremus occidentalis* (Greene). Typical form, not having a conspicuous transverse yellow dorsal abdominal band as does the common Colorado variety *proximus* (Cress.) and the California variety *nigroscutatus* (Franklin). Glenwood Springs, Col., two males and one worker, August 5, 1920, about 5,800 ft. alt.; Jim Creek near Boulder, Col., one worker, July 21, 1922, about 6,400 ft. alt.; Boulder, Col., one worker, July 27, 1922, about 5,600 ft. alt.; Tenn. Pass, Col., one worker, August 6-8, 1920, about 10,500 ft. alt. Specimens from the American Museum of Natural History.

3. *Bremus terricola* (Kirby). Fort Wrigley, Mackenzie River, Canada, one worker, July 25, 1922, (Coll C. H. Crickmay); Fort Norman, Mackenzie River, Canada, one worker, June 29, 1922, (Coll. C. H. Crickmay). Specimens from the Canadian National Collection.

4. *Bremus moderatus* (Cress.). Fort Wrigley, Mackenzie River, Canada, one worker and one male, July 25-31, 1922; Fort Norman, Mackenzie River, Canada, one male, August 6, 1922, (Coll. C. H. Crickmay). Specimens from the Canadian National Collection. Franklin, 1913, says "In the New World, it [*moderatus*] appears to be confined to Alaska, though it may possibly be found in the adjoining territory of Yukon." This species has also been taken at Banff, Canada (Fletcher and Gibson, 1908), and more recently near Jasper, Canada (Diven, 1916).

5. *Bremus bimaculatus* (Cress.). Mackinac Co., Mich., one queen, May 29, 1921, (Coll. S. Moore); Huron Co., Mich., one worker, June 22, 1922, (Coll. Husey). Specimens from Museum of Zoology, Ann Arbor, Mich.

6. *Bremus bifarius* var. *nearcticus* (Handl.). White Horse, Yukon Territory, Canada, two workers, July-August, 1920, (Coll. A. P. Hawes). Specimens from the Canadian National Collection.

7. *Bremus mixtus* (Cress.). Fort Wrigley, Mackenzie River, Canada, one queen, July 23, 1922, (Coll. C. H. Crickmay). Specimen from the Canadian National Collection.

8. *Bremus vagans* (F. Sm.). East Coast of James Bay, Quebec, Canada, one queen, July, 1920, (Coll. F. Johansen). Specimen from the Canadian National Collection. This record represents rather an extreme northern range for this species in the eastern part of its habitat.

9. *Bremus couperi* (Cress.). Fort Simpson, Mackenzie River, Canada, two workers, June 25, 1922, (Coll. C. H. Crickmay); Pequaming, Mich., one male, July 1, 1903, (Coll. M. Hebard); Mackinac Co., Michigan, two queens, July 1, 1921, (Coll. S. Moore). Specimens from the Canadian National Collection, American Entomological Society, and the Museum of Zoology, Ann Arbor, Michigan, respectively. This species has been recorded from Isle Royale in Lake Superior, but never previously from the mainland of Michigan.

10. *Bremus pleuralis* (Nyl.). Fort Norman, Mackenzie River, Canada, one worker, August 6, 1922; Yukon Territory, Canada, Lat. 62°-63° and Long. 137°-139°, one worker, 1916 (Coll. D. D. Cairnes). Specimens from the Canadian National Collection.

11. *Bremus flavifrons* (Cress.). East Coast of James Bay, Quebec, three queens, June 30-July, 1920, (Coll. F. Johansen). Specimens from the Canadian National Museum. This record is published merely because it confirms the validity of Cresson's Hudson Bay Territory record and also helps to establish the limit of the eastern range of this species.

12. *Bremus sonorus* var *flavodorsalis* (Franklin). Urbana, Illinois, April 18, 1890, (Coll. C. A. Hart). Specimen in the Collection of the Illinois Natural History Survey. This record is such an extraordinary one from the standpoint of locality that its publication demands some comment. The species has been previously recorded from the United States only from such southwestern states as Texas, New Mexico, Arizona and California. In fact, the variety *flavodorsalis* (Franklin) has not been previously reported outside of California. I have carefully studied this specimen from Illinois in comparison with specimens of the same variety from California, and also in comparison with a large series of the typical *Bremus sonorus* (Say) and the closely allied *Bremus americanorum* (Farb.). The presence of this species and variety in Illinois may possibly be explained as an instance of accidental distribution. The possibility of Mr. Hart's getting a Californian bumblebee mixed in labeling with Illinois specimens is exceedingly remote, for interest at that time was centered mainly upon the Illinois fauna. Furthermore, there are no other specimens of bumblebees from the southwestern states in the Illinois Natural History Survey collections except those of rather recent addition. This record now makes a total of seventeen species of Bremidae known to have been taken in Illinois, an increase of seven species over the list of 1918.

13. *Bremus morrisoni* (Cress.). Wallula, Wash., one queen, June 8, 1922, (Coll. Dice). Specimen from the Museum of Zoology, Ann Arbor, Mich.

14. *Psithyrus variabilis* (Cress.). Miller, Indiana, one female, June 11, 1904, (Coll. V. E. Shelford); Indianapolis, Indiana, one male, Sept. 25, 1915, (Coll. H. Dietz). Specimens in collection of the Illinois State Laboratory of Natural History and of Purdue University, respectively. In spite of the fact that this species has not been previously recorded from Indiana, it is probably the most common species of *Psithyrus* in that state, as it is in Illinois. The host, *Bremus americanorum* (Fab.), is equally common in both states.

15. *Psithyrus ashtoni* (Cress.). Fort Wrigley, Mackenzie River, Canada, one female, July 25, 1922; Fort Simpson, Mackenzie River, Canada, June 25, 1922, (Coll. C. H. Crickmay). Specimens in the Canadian National Collection.

16. *Psithyrus suckleyi* (Greene). White Horse, Yukon Territory, Canada, one male, 1921, (Coll. E. P. Hawes). Specimen from the Canadian National Collection.

17. *Psithyrus insularis* (F. Sm.). Fort Simpson, Mackenzie River, Canada, one female, June 22, 1922, (Coll. C. H. Crickmay). Specimen from the Canadian National Collection.

18. *Psithyrus fernaldae* Franklin. Gogebic Co., Mich., one female, August 14, 1919, (Coll. Hubbell); Portaue Port, Newfoundland, two females, August 1, 1922; Crabbes, Newfoundland, two females, July 26, 1922. Specimens, respectively, from the Museum of Zoology, Ann Arbor, Michigan and the American Museum of Natural History. These records further substantiate the correctness of considering the male described as *P. tricolor* Franklin (the males as *tricolor* were recorded from Mich. by Frison, 1923) as the male of *P. fernaldae* Franklin (Frison: Trans. Amer. Ent. Soc., xlviii, p. 321, 1923).

Recently, through kindness of Prof. T. D. A. Cockerell, I have had the opportunity of studying some bumblebees from Truchas Peaks, New Mexico, collected by W. P. Cockerell in 1903. The species recorded from this region in the *American Naturalist*, xxxvii, p. 891, by Cockerell as *B. frigidus* Smith proves to be *Bremus kirbyellus* (Curtis). *Bremus kirbyellus* presents us with an interesting example of a bumblebee which extends from the Arctic Circle southward nearly to Mexico by frequenting the high altitudes of the mountain ranges of the western states. *Bremus frigidus* (F. Sm.) has a distribution which is somewhat parallel to that of *Bremus kirbyellus*, but as yet there are no authentic records of its occurrence as far south as New Mexico. There are also specimens of *Bremus sylvicola* (Kirby) in the Truchas Peaks Collection of 1903 sent me by Prof. Cockerell, and this is probably the species listed as *B. ternarius* Say. *Bremus huntii* (Greene), which is very closely related to *Bremus ternarius* (Say), also occurs in New Mexico and it is possible that some specimens of this species were also included under the name *B. ternarius* Say. In fact Cockerell, in 1906, interprets his Truchus Peaks record of *B. ternarius* as *B. huntii*, and it is also thus considered by Lutz and Cockerell in 1920. However, the Truchas Peaks record has reference to a species of bumblebee taken "above timber line" and this strongly indicates *B. sylvicola* rather than *B. huntii*, as the latter is usually found at lower altitudes.

Bremus ternarius (Say) has also been reported from Battle Harbor, Labrador by Lutz (Bull. Amer. Mus. Nat. Hist., xxxv, p. 514, 1916), but a study of specimens shows that this record applies to *Bremus sylvicola* (Kirby). Franklin (1913) in summarizing what was known concerning the distribution of this species at that time, doubted the locality "Indiana" of Say's type. Records of this species from Michigan and Wisconsin, however, leave no doubt in my mind concerning Say's type locality; admitting that the occurrence of this species in Indiana must be a matter of rare happening. *Bremus ternarius* (Say) has not been reported from Illinois, but its presence in northern Illinois is likely to be revealed at almost any time. Several species with a similar general northern and

eastern range (*Bremus borealis* Kirby, *Bremus perplexus* Cresson and *Bremus affinis* Cresson) have been added to the Illinois faunal list during the last few years.

Titus, in 1908, recorded *Bremus terricola* (Kirby) from Illinois and Lutz and Cockerell (1920) have doubted the authenticity of this record. This species does, however, occur in Illinois (Frison, 1919, 1921) and the record of this species from Illinois by Titus should be accepted.

THREE CANADIAN ACANTHIIDAE (SALDIDAE, HETEROPTERA).

BY J. R. DE LA TORRE-BUENO,

White Plains, N. Y.

Through the courtesy of Dr. J. McDunnough, of the Entomological Branch, Ottawa, I have had the privilege of studying the three subjoined species of Canadian *Acanthiidae*, two of which are undescribed; the third appears to revive the Abbe Provancher's synonymized *Salda obscura*.

The two new species are described by invariable comparative structural characters only, although a color picture is appended to each. It is hoped that this plan will enable others to recognize the species without difficulty. It should also be borne in mind that since the descriptions were drawn up under the binocular microscope at 19 times magnification (eyepiece 10x, objective 55 mm.) and comparisons made and dimensions taken with the eyepiece micrometer, all measurements are accurate to within about 1/10 mm. Such accuracy can scarcely be attained with the hand lens.

These two heretofore unknown species point the moral that in the semi-aquatic and aquatic groups of Heteroptera our knowledge is far from complete, or even adequate. It is hoped that Canadian collectors may endeavor to secure good series of these forms, having ever-present that in the Acanthiidae a great similarity of pattern in entire groups masks the actual differences in structure and that conversely, a great dissimilarity in pattern conceals the actual structural identity; a condition abundantly shown in *Acanthia interstitialis* Say, known under two further names,—*pallipes* Fabricius and *separata* Uhler—because of its great and contrasting diversity of pattern.

It may also be pointed out that not all the structures of the species were employed in describing them—only those deemed critical in the present condition of knowledge.

Acanthia celeripedis n. sp.

Head: In natural position, as seen from above, one quarter wider than long, two wedge shaped yellow glabrous calli, narrowing anteriorly next the eyes and beginning on a line drawn behind and tangent to the ocelli; back of head scabrous; a deep vertical sulcus anteriorly, extending beyond the eyes to the apex of the clypeus, set in an oval trough, the sloping sides of which are transversely rugulose; the front with glabrous lateral calli starting at the eyes and slightly converging anteriorly. Eyes strongly converging anteriorly, longer than their furthest distance apart at vertex; ocelli contiguous, on a line with the glabrous wedge; two first segments of the antennae as long as the length of the head and thorax taken together; (segments 3 and 4 missing in all specimens); segment I stoutest, shortest, slightly curved, set with a few fine spines or coarse bristles,

II three times as long as I, slender, setose; formula; I is to II as 8 is to 24; a pronounced long callus anterior to the insertion of the antennae. Rostrum going beyond the middle coxae, of the typical structure; clypeus oval, pointed, as long as wide. Prothorax more than twice as wide posteriorly as long (30 to 13) at the median line, anteriorly slightly wider than long (15 to 13), deeply excavate posteriorly; callus well-marked, with a deep central fovea, with rugulae radiating irregularly therefrom; flattened part behind the callus irregularly reticulately rugulose. Scutellum as long as broad, the transverse impression slightly nearer the base than the apex, more or less shagreened.

Hemielytra: Dull, with scattered short black hairs; corial veins distinct; membrane with four cells, the apex of the 1st set 1/3 above the apex of the 2d, 2d cell wider than 1 or 3, 4th cell widest; corial margin widest on a line drawn through the posterior end of the commissure, explanate and markedly recurved anteriorly, wider than the thorax and with a narrow reflexed edge; commissure one-half the length of the scutellum.

Legs: All three pairs moderately long; anterior femora slightly thicker than the others, about twice as stout as tibiae, which are slightly enlarged apically; tibia, equal to femur; coxa 2/5 as long as tibia, tarsus 2/5 length of tibia, 2d and 3d segments subequal; claws simple, moderate, 1/2 as long as tarsal segment III; tibiae set with a few stout bristles and spines apically. Middle femora of the same proportional stoutness, subequal to tibiae; tarsal segments 2 and 3 subequal; tibiae set with bristles and long scattered spines, which are quite abundant at the extremity. Third femora of the same proportional thickness and same vestiture as others more than ½ as long as tibiae (30 to 55); tarsal segment 3 ¾ as long as 2; tibial and tarsal spines as in other segments, claws similar.

Abdomen: Female, simple, the terminal rounded segment half as long again medially as the preceding three taken together; segments 4 to 6 of equal length throughout and subequal to each other; segment 3 medially of equal length to the others, but slightly longer at the connexivum where it is subequal to segment 2; structure of segment 1 concealed by coxae; entire abdomen polished black with sparse gray hairs; extremity of female ventral segment oval in outline, quite recurved, ovipositor projecting beyond it and not visible beyond the hemielytra from above; male genital plate narrower and longer than female, roundedly prominent, claspers and genitalia dorsal and concealed by the hemielytra, the other segments much as in the female.

Male: Length to the tip of the hemielytra, 5.83 mm. Width across hemielytra, 2.2 mm. Head, long, .83 mm.; wide, 1.22 mm. Thorax, long, .67 mm., width, anterior, .83 mm., posterior, 1.72 mm. Scutellum, long, 1.17 mm.; wide, 1.11 mm.

Female: Length to tip of hemielytra, 6.51 mm. Width across hemielytra, 2.44 mm. Head, long, .83+ mm.; wide, 1.28 mm. Thorax, long, 72 mm.; width, anterior, .83 mm., posterior, 1.72 mm. Scutellum, long, 1.22 mm., wide, 1.22 mm.

Type—♂, Nordegg, Alta., Canada, July 25, 1921.

Allotype—♀, same locality, July 18.

Paratype—one ♂, same data.

All collected by Dr. J. McDunnough. Type and Allotype, in Canadian

National Collection; paratype, in collection of J. R. de la Torre-Bueno.

Color Picture:—Head above and below and eyes black, frontal callosities yellow; thorax and scutellum black; pile bronzy. Wings: clavus black with a more or less cuneate apical spot set in a velvety area; corium black, a white rounded spot basally, three longitudinal streaks in the disk, two large irregular marginal spots, one median, the other apical, two spots between the veins on the membranal suture; cells of the membrane with embrowned irregular streaks and spots; corial veins black, membranal brownish. These spots are variable in size and prominence.

Prosternum black, lamellar projection over coxae yellowish-white; mesosternum anteriorly and posteriorly yellowish; metasternum posteriorly yellowish. All coxae black, trochanters luteous, femur blackish-brown, tibiae yellow (sometimes brownish) with a narrow black ring at distal extremity, first tarsal segment black, second yellow, third more or less embrowned, claws yellow. Abdomen shining black.

This color-picture is given to aid in visualizing the insect, not in order to determine it. These are the generalized markings of what Dr. Reuter terms the *pallipes* group and are subject to fluctuation, not alone from species to species, but also from individual to individual within the species.

Acanthia bellatrix n. sp.

Head: In natural position as seen from above, two-thirds wider than long; two wedge-shaped yellow calli narrowing anteriorly next the eyes and beginning on a line drawn behind and tangent to the ocelli; back of head scabrous with golden pubescence; anterior vertical sulcus evanescent; the front scabrous with two transverse converging calli starting at the eyes but not meeting across the face. Eyes converging anteriorly, not quite as long as their greatest distance apart; ocelli on a line with the wedge; antennae nearly one-quarter longer than (male) or subequal to (female) the length of the head, thorax and scutellum taken together; segment I shortest, stoutest, nearly straight, set with a few fine spines or coarse bristles; II one-third of itself shorter than III and IV taken together, slender, pubescent: III and IV subequal, slightly stouter than II, IV subfusiform and slightly stouter than III, more thickly pubescent and with a few setae; formula, I to II to III to IV as 7 to 18 to 13 to 12 (male) or 8 to 20 to 12 to 13 (female); a pronounced tubercle anterior to the insertion of the antennae. Rostrum extending to the middle coxae, of the typical structure; clypeus rounded, much longer than wide. Prothorax more or less three times as wide posteriorly as long on the median line, anteriorly one-third wider than long, shallowly excavate posteriorly; callus well-marked with a shallow central transverse fovea; flattened part behind the callus more or less scabrous; a heavy golden pubescence nearly obscures these details. Scutellum as long as broad the transverse semi-lunar impression much nearer the base than the apex, the whole more or less shagreened, densely golden pubescent, a large rounded bare spot at each anterior angle and at apex. Prosternum produced over coxae in a thin rounded flaring plate.

Hemielytra: Dull with golden pubescence; veins obsolete except the claval suture and the main corial vein, the others represented by scarcely visible thickenings of the corium; membrane with four cells, the apex of the first set slightly

above the apex of the second, subject to variation; the fourth cell widest; corial margin widest on a line drawn just behind the apex of scutellum, explanate, not wider than the thorax, and with a narrow reflexed edge; commissure 4/7 the length of the scutellum.

Legs: Anterior femora but slightly thicker than the others, about twice as stout as tibiae, which are slightly enlarged apically; tibia subequal to femur; coxa 2/5 as long as tibia; 2d and 3d tarsal segments subequal; claws simple, moderate; tibiae set with bristles and pubescent. Middle femora of same proportional stoutness, equal to tibiae; tarsal segments 2 and 3 equal; tibia set with long stoutish bristles and with apical spines. Third femora of the same proportional thickness and same vestiture as others, 2/3 as long as tibiae, tarsal segment 3 about 4/5 length of 2d; tibial and tarsal vestiture as in other joint, claws similar.

Abdomen: Male, simple, the terminal rounded segment as long medially as the preceding three taken together; segments 4 to 6 of equal length throughout and subequal to each other; segment 3 medially of equal length to the others, but slightly longer at connexivum, where it is equal to segment 2; structure of segment 1 concealed by coxae; punctulate, polished black with sparse grey hairs; terminal segment ovoid, prominent; claspers and other genitalia dorsal and covered by the hemielytra: Female, last segment conical truncate, ovipositor stout projecting beyond it and not visible beyond the hemielytra from above.

Male: Length, 4.2+ mm. Width, 2. mm. Head, Long, .66 mm.; wide, 1.1 mm. Thorax, long, .55 mm.; width, anterior, .77 mm., posterior, 1.27 mm. Scutellum, long, .94 mm.; wide, 1. mm.

Female; Length, 5 mm. Width, 2.5 mm. Head, long, .56 mm.; wide, 1.17 mm. Thorax, long, .54 mm.; width, anterior, .9 mm., posterior 1.73 mm. Scutellum, long, 1. mm., wide, 1.2 mm.

Type— ♂, Waterton Lakes, Alberta, Canada, June 30, 1923.

Allotype— ♀, same locality, June 29, 1923.

Paratypes—1 ♂, 2 ♀, June 30; and 1 ♂, 2 ♀ June 29.

All collected by Dr. J. McDunnough. Type and Allotype in Canadian National Collection; paratypes in same collection and collection J. R. de la Torre-Bueno.

Color picture: Head and eyes black, emargination narrowly edged with yellow; clypeus and labium yellow, narrowly black bordered; antennae stramineous, first segment black beneath; thorax dull black, with a narrow yellow lateral margin posteriorly; scutellum dull black; hemielytra piceous, clavus apically with a more or less wedge-shaped flavous spot set in a velvety black area, a broad white or ivory spot in the corial margin, extending nearly to the disk and another surrounding a black spot at the apex of the corium, membrane yellowish, the veins darker, the cells with a central dark area and a marginal black spot between the peripheral vein and the margin; anterior legs, femora above flavous black punctate and beneath broadly black, tibiae flavous, broadly but faintly black annulate; segments 1 and 3 of tarsi black, 2 flavous; middle and hind legs flavous, femora black punctate and tibiae annulate, the middle pair with one broad band in the middle and narrow at the extremities, the 3d tibia with 5 or 6 narrow annulations and extremities much more pronounced, first tarsal segment of both black, second yellow for more than half its length and black apically, the third

entirely black and the claws as well; anterior coxae black, trochanters yellow; all other trochanters and coxae yellow; prosternum broadly white margined at acetabulae, and meso- and metasternum narrowly; abdomen black.

Acanthia bellatrix has been taken for *elongata* Uhler, but it differs from the description of the latter in the following particulars: Head not or very slightly grooved down the middle; tylus shagreened; antennae much longer than from the tip of tylus to the tip of clavus; and in the length (4.2 mm. male and 5 mm. female, as against 6 mm.); besides other minute details of color pattern. The color pattern, however, is generalized for a number of species in such striking features as the ivory-white or yellow, more or less wedge-shaped spot on a larger velvety black spot at the apex of the clavus and in the distribution and size of the other light colored spots.

This species is temporarily placed in *Acanthia* (Fabricius) Reuter rather than erect a new genus for it. The Reuterian generic characters are at times too evanescent for clean-cut generic characterization. Until such a time as these characters are evaluated, it is safer to erect no new genera.

Acanthia obscura Provancher (*littoralis* V. D., not *littoralis* Linne). Arcola, Sask.,, 18, VI 1922 (N. Criddle), 4 specimens; Waterton Lakes, Alta., 30. VI. 1923, 4 specimens, 29. VI. 1923, 1 specimen, 20. VI. 1923, 1 specimen (J. McDunnough).

I find myself unable to follow Mr. E. P. VanDuzee's dictum[1] synonymizing this species with *Salda littoralis* L., since while the species to a certain extent satisfies the description of the European species, on actual comparison with specimens in hand it is seen to be quite another thing. I have seen and also possess other American black species which might be named *littoralis* from description but which markedly differ from authentic specimens from Europe in my collection. This point will be discussed more at length elsewhere.

In passing, it may be remarked that the dead labor of controlling these species is time-consuming and tedious in the extreme. The generalized color-pattern of the *Acanthiidae* in certain groups makes a color description worthless, except where a structural detail may be, as it were, casually tossed off in the middle of a discursive and meticulous catalogue of colors and pattern; or where specimens authentically determined by the author are available.

TWO GENERA OF ICHNEUMONIDAE.*

BY H. L. VIERECK,
Ottawa, Ont.

Grypocentrus Ruthe.

Genotype- Grypocentrus incisulus Ruthe, (determined by Pfankuch.) See fig. B.

Currania new genus

Relying entirely on the literature, this could be confused with *Grypocentrus* Ruthe from which it differs especially in its peculiar head, vertically carinate pronotum, shape of thorax and propodeum, venation and in its level tergites. In a more rational classification than is now extant this genus would evidently not key out to *Grypocentrus* Ruthe. See fig. A.

1.—Can. Ent., xliv : 324, 1912.

*—Contribution from the Division of Systematic Entomology, Entomological Branch, Dept. of Agric., Ottawa.

Genotype- Currania mirabilis new species.

Currania mirabilis new species

Female. Length 4.5 mm.; black and more or less polished; head as wide as the thorax, face produced and overhanging the nearly horizontal yellowish clypeus, mandibles reddish with blackish tips, antennae 20-jointed, the scape and pedicel dark stramineous, flagel brownish, scape in length is to the length of the pedicel as 4 is to 1.5, joint 1 of the flagel is to joint 2 in length as 4 is to 3, palpi pale stramineous; dorsulum finely distinctly punctured, scutel nearly impunctate, tegulae and wing base pale stramineous, areolet with a short petiole, nearly sessile, its lumen oval in outline, stigma and costa brownish stramineous, rest of veins

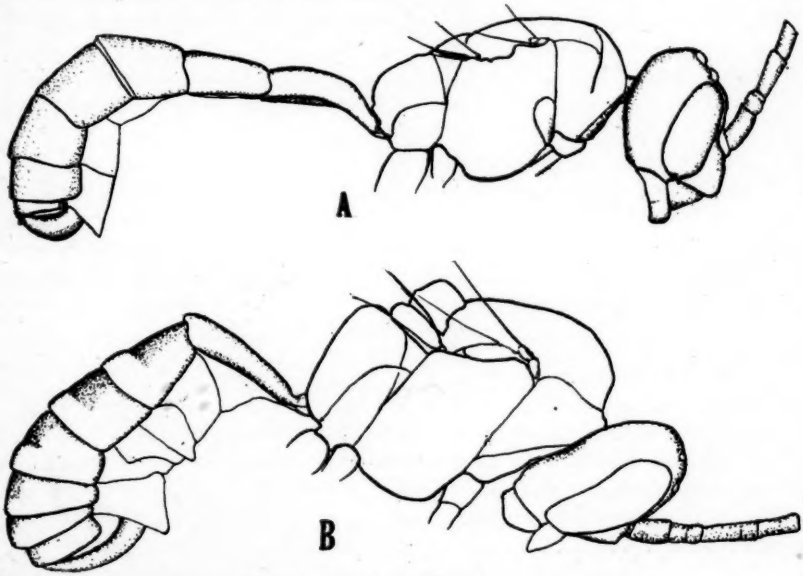

Fig. A. Profile of *Currania mirabilis* Viereck.
Fig. B. Profile of *Grypocentrus incisulus* Ruthe.

dark stramineous, legs excluding hind coxae and hind tarsi, mostly pale stramineous, hind tibiae at apex and hind tarsi mostly brownish, hind coxae mostly blackish; propodeum rather opaquely sculptured, areola and basal area confluent; first tergite not much longer than wide at apex, its dorsal longitudinal carinae extending from the lateral carina nearly to the apical margin, second tergite with lateral depressed corners finely sculptured like the first tergite, rest of second tergite faintly sculptured except for its scattered punctures, the following tergites punctured much like the second tergite but nearly polished, the apical and lateral margins of the second and following tergites dark stramineous, sixth and seventh abdominal segments as well as the sheaths of the ovipositor entirely dark stramineous.

Holotype— ♀, Aylmer, Quebec, July 27, 1924, (C. H. Curran); No. 1248 in the Canadian National Collection, Ottawa.

The figures were drawn by my friend, Mr. C. H. Curran, in whose honour the new genus is named.

ON THE GENUS ARCTOPHYTO TOWNSEND IN NORTH AMERICA (TACHINIDAE, DIPTERA).*

BY C. HOWARD CURRAN,
Ottawa, Ont.

Specimens belonging to the genus *Arctophyto* Townsend were included by Coquillett in his genus *Paraphyto*, which is synonymous with *Wohlfartia* Br. and Berg. None of the species can be traced out to the genus *Paraphyto* in Coquillett's key as the frontal bristles do not extend below the base of the antennae as is supposed to be the case. Townsend has split the genus to such an extent that it is practically impossible to follow his divisions and each genus proposed contains only one species, except in the case of *Arctophyto*. The synonymy is as follows: The genotypes are in brackets.

Arctophyto Towns., Proc. Biol. Soc. Wash., XXVIII, 22, 1915.

(*Paraphyto borealis* Coq.). *A. wickhami* Towns. id. *A.* (*Trixa*) *gilletti* Towns.

Phalarctophyto Towns., l. c., 23, 1915. (*Paraphyto sarcophagina* Coq.).

Oreophyto Towns., Proc. U. S. N. M., LI, 302, 1916. (*O. ochricornis* Towns.).

The characters used to separate these supposed genera are in some cases not of specific value, being chiefly the width of the front, length of palpi and presence or absence of discal macrochaetae on the second and third abdominal segments. I am unable to definitely satisfy myself that *A. ochricornis* is distinct from *A. gilletti*.

TABLE OF NORTH AMERICAN SPECIES.

1. Rim of the squamae brownish; ♂ front at narrowest point not or but little wider than distance between posterior ocelli; palpi brownish on apical half, reddish on basal part ..... *marginalis* n. sp.
   Rim of squamae yellow or almost white 2
2. Palpi black ..... *borealis* Coq. (*wickhami* Towns.)
   Palpi more than half reddish 3
3. Second and third abdominal segments without discal macrochaetae, ... *sarcophagina* Coq.
   Second and third segments with discal macrochaetae 4
4. Antennae of ♂ orange or ochreous (*Orephyto*) ..... [1]*ochreicornis* Towns.
   Antennae of ♂ brownish on most of third joint ..... *gilletti* Towns.

Arctophyto marginalis n. sp.

Differs from all other described species in having the squamae brownish tinged and with a brown margin.

Length, 9 to 12 mm. *Male*. Front at narrowest point not or but little

1. I have not seen this species. According to Townsend the palpi are stouter and less thickened apically. I doubt if it is distinct from *gilletti* but the type must be examined.

*—Contribution from the Division of Systematic Entomology, Entomological Branch, Dept. of Agric., Ottawa.

wider than the distance between the posterior ocelli, the frontal vitta deep brown as wide anteriorly as the length of the third antennal joint; a large part of the parafacials, cheeks and facial carina reddish; face argenteous or greyish yellow pollinose, the parafrontals similar. Frontal bristles long and rather slender; ocellars long, slender, only one distinct pair. Epistoma as prominent or more so than the antennal base. Palpi blackish or brown, basal half more reddish; rather robust, both the upper and lower edges with hairs on whole length. Antennae black, the first two joints sometimes more or less reddish; third joint not 1 ½ times as long as second, scarcely concave beyond base of arista and not narrowed, its apex rounded; arista black, its pubescence longer than its greatest width.

Thorax, scutellum and abdomen bluish black, the former thinly greyish pollinose, with three blackish vittae from posterior view, the median one wide, reaching to the apical third, the lateral ones narrow and interrupted at the suture, the dark vittae with rather brownish pollen. Normally four ps. dsc., but often only three; acr. continuous from front to scutellum (six to eight); three sternopleurals.

Legs black; middle tibiae with a weak antero-ventral bristle, or with two short ones beyond the middle, that towards the base not longer than the width of the tibia.

Wings lightly infuscated, the bases and anterior veins brownish; posterior crossvein oblique, biarcuate. Squamae tinged with brown, their border brown.

Abdomen grey pollinose, the first segment shining, the remaining segments with the apical third or less and the middle line thinly brownish pollinose but usually appearing shining. Second and third segments with discal macrochaetae.

Female. Front 1¼ times as wide as either eye, the parafrontals wider at the middle than the frontalia, shining above and about the frontal bristles for its whole length, the frontalia dull blackish, but somewhat shining about the ocellar tubercle. Two strong orbital bristles. Third antennal joint twice as long as the second. Otherwise similar.

Holotype—♂, Revelstoke Mt., B. C., (6000 ft.), Aug. 12, 1923, (E. R. Buckell); No. 750 in the Canadian National Collection, Ottawa.

Allotype—♀, same locality and date, (P. N. Vroom).

Paratypes—5 ♂♂, 1 ♀ same data as holotype; ♂, Banff, Alta., July 27, 1922, (C. Garrett); 3 ♀♀, Banff, August 9, 1922, (Garrett).

This species is most nearly related to *A. borealis* Coq., but that species is described as having white squamae. In some of the specimens the brownish patch on the face mentioned by Coquillett as characteristic of *borealis* is present but this character is of no value.

The species named by Townsend, *A. wickhami*, (*gilletti* Coq. (not Towns.) of Rev. Tach.) approaches much more closely the description of *A. borealis* of Coquillett and I am inclined to think that the two are identical. *A. wickhami* is known from ♀ only, but appears to be larger than typical *borealis*.

A NEW DOLICHOPUS FROM BRITISH COLUMBIA (DOLICHOPODIDAE, DIPT.).*

BY C. HOWARD CURRAN,
Ottawa, Ont.

The species described below is an interesting new addition to our fauna, as it falls into the subgenus *Hygroceleuthus* and has the femora largely black. The wings are unusually broad and almost like fig. 64, U. S. N. M. Bull, 116. *D. humilis* has the antennae wholly black; the species described below has the first two joints broadly orange beneath.

Dolichopus andersoni n. sp.

Length, 6.5 mm. *Male.* Face long, moderately narrow, golden yellow, tinged with brown above; rather pale yellow from lower view. Front deep green, the ocellar region and sublateral vittae bronze brown; no pollen. Occiput almost blackish, but broadly brilliant deep green along the orbits; orbital cilia black, the upper ones fine bristle-like, the lower long, scale-like, rather large. Face and palpi apparently reddish in ground color, the latter with similar pollen to face. Antennae black, the lower edge of the first two joints orange; first joint very long, thick, the second two-thirds as long as first, the third of about the same length as second, the first two with abundant hair, the third elongate subcordate; arista inserted before the sharply rounded apex, stout, with strong pubescence.

Mesonotum deep green, with very narrow submedian bronze stripes and thinly covered with brownish pollen. Pleura moderately brownish grey pollinose.

Femora black on a little more than the basal half, but there is a narrow median stripe of reddish on the anterior surface reaching quite to the base, but this is less conspicuous on the front pair. Legs beyond this, reddish, but the posterior tibiae are somewhat darker except on the basal third and apex. Anterior four tarsi from apex of first joint and hind ones wholly, black. Coxae black, with green reflections, greyish pollinose, the apices of the front ones broadly reddish. Hairs of all the coxae black, coarse. Tarsi simple, hind femora without cilia, with three preapical bristles on anterior surface, the apical one strongest, the middle femora with a strong anterior and weaker posterior preapical, the front ones with a row of weak bristles apically behind, one anterior preapical below. Posterior tibiae swollen, largest medianly, but only about twice as large as the middle ones.

Wings greyish, tinged with yellowish along the costal area and veins, very broad and obtuse at apex, the costa with a large swelling at apex of first vein. Squamae and halteres yellow, the former with black fringe.

Abdomen bright green, the dorsum and apex brassy bronzed, the whole thinly greyish pollinose. Genitalia black, the inner appendages yellow, the outer lamellae brown, with brownish yellow pollen, fringes with curved fine black hairs, the apex shallowly jagged with about six teeth; discal hairs short, black; in shape the lamellae are elongate, broadly oval with a rectangular outer basal corner.

Female. A specimen taken at the same time differs markedly but is undoubtedly this species. The face is greyish white; infraorbital cilia golden yellow, slender, scale-like. Palpi reddish with black hairs. The antennal joints are

all relatively shorter. The front shows traces of yellowish white pollen in some lights. Thorax with dashes of cupreous.

Anterior coxae reddish with broad black, entire stripe on outer side; the others with broad reddish apices. Legs wholly reddish with the tip of the first and remaining joints of all the tarsi black. Middle tarsi without bristle above, with rows of stout, short spines on under edges.

Wings longer and narrower than in ♂, yet suggestive of same type of venation, etc., the costa simple.

Holotype— ♂, Duncan, B. C., July 26, 1921, (W. B. Anderson); No. 759 in the Canadian National Collection, Ottawa.

Allotype— ♀, same data.

ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO, 1924.

The sixty-first Annual Meeting of the Entomological Society of Ontario was held at the Ontario Agricultural College, Guelph, Thursday and Friday, November 27th and 28th, 1924.

The morning and afternoon meetings were held in the lecture room of the Department of Entomology. The Thursday evening meeting was held in Memorial Hall when President Reynolds welcomed the members and visitors to the college and Dr. C. L. Metcalfe delivered the public lecture on "Methods of Warfare Against Insects." Two of the young ladies of Macdonald Hall contributed vocal solos which added to the enjoyment of the evening.

After this meeting a smoker was held in the new faculty club room in the basement of Memorial Hall. At this gathering the members were entertained by two of the students of the Ontario Agricultural College. A most enjoyable evening was spent.

The meetings were well attended and proved very successful. A large number of interesting papers were read. The Friday morning session on the European corn borer proved of particular interest. The members were accommodated in one of the college residences.

During the meetings the following papers were presented:

1. Lessons from the Grasshopper Outbreak of 1919-23 in Manitoba.—Mr. N. Criddle.
2. Recent Developments in Airplane Dusting.—Dr. J. M. Swaine.
3. Farm Practices and Rose Chafer Control.—Messrs. W. A. Ross and J. A. Hall.
4. The Lilac Leaf Miner, *Gracilaria syringella*.—Mr. G. B. Hutchings.
5. The Occurrence of the Lesser Grape Vine Flea-bettle in Canada.—Mr. Arthur Gibson.
6. Sugaring.—Messrs. H. F. Hudson and A. A. Wood.
7. Notes on Insect Parasites of *Phyllophaga* spp. in Quebec.—Mr. C. E. Petch.
8. *Ptinus fur* L.—A Serious Pest of Flour in Western Canada.—Mr. C. H. Curran.
9. The Spread and Degree of Infestation of the European Corn Borer in Ontario in 1924.—Mr. W. N. Keenan.
10. Mortality of European Corn Borer Larvae in the Early Instars.—Prof. L. Caesar.

11. Further Data on the Mortality of European Corn Borer Larvae.—Mr. R. H. Painter.
12. The Introduction of European Corn Borer Parasites into Ontario.—Mr. A. B. Baird.
13. The Cutting Box as a Factor in European Corn Borer Control.—Mr. G. A. Ficht.
14. The Campaign for General Control of the European Corn Borer in Ontario. —Mr. H. G. Crawford and Prof. L. Caesar.
15. The Discovery of the Gipsy Moth in Canada.—Mr. L. S. McLaine.
16. Some Methods of Teaching Entomology in the University of Illinois.— Dr. C. L. Metcalfe.
17. A Study of the Methods Used in Growing Entomopthorus Fungi in Cages Prior to Their Artificial Dissemination in Orchards.—Mr. A. G. Dustan.
18. Notes on *Nepticula pomivorella*.—Mr. Harold Fox.
19. Notes on the Life History of the Lesser Clover Weevil, *Phytonomus nigrirostris*.—Messrs. H. F. Hudson and A. A. Wood.
20. Entomology in the Quebec Rural Schools.—Mr. George Maheux.
21. Observations on the Host Selection Habits of Phytophagous Insects with Special Reference to *Pieris rapae* L.—Mr. C. R. Twinn.
22. The Pear Psylla Problem.—Mr. W. A. Ross.
23. Insects of the Season in Ontario.—Mr. W. A. Ross and Prof. L. Caesar.

The officers for the year 1924-25 were elected as follows: President, Dr. J. M. Swaine; Vice-President, Father Leopold; Secretary-Treasurer, A. W. Baker; Curator and Librarian, J. A. Flock; Directors of Divisions, No. 1, C. B. Hutchings, No. 2, C. E. Grant, No. 3, Dr. A. Cosens, No. 4, F. J. A. Morris, No. 5, Dr. J. D. Detwiler, No. 6, H. F. Hudson, No. 7, W. A. Ross.

A. W. BAKER, Secretary.

BOOK NOTICE.

A CHAPTER IN AMERICAN EDUCATION,

By R. P. Baker, Ph.D., New York, C. Scribner's Sons.

In connection with the hundredth anniversary of Rensselaer Polytechnic Institute the above work has been compiled by Prof. Baker. Of extreme interest to all educationalists throughout the country, the book should also make an especial appeal to entomologists and naturalists, dealing, as it does in certain of the chapters, with the work of early entomologists such as Ebenezer Emmons and Asa Fitch, Jr.

The EDITORIAL COMMITTEE of "The Canadian Entomologist" wish to include in each issue of the journal at least one article of a biological or semi-popular nature. Papers of such a character would be welcomed for publication as the success of such a policy depends on a more active co-operation on the part of our esteemed entomological friends than has been evident for the past few years.

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